HABITAT AND VEGETATION

Vegetation provides important habitat for a variety of species in Lancaster County. Historically, the county was covered in native tallgrass prairies. Dominant grasses included big and little bluestem, indiangrass, sideoats grama, and porcupine grass. Historically, many wildflowers are found in tallgrass prairies, including purple coneflower, purple prairie clover, and black-eyed susan. While a majority of native grasslands have been urbanized or cultivated for agricultural production, some remnants of native plant communities still survive today. Approximately 262 parcels remain, containing about 8,640 acres (1.5%) of prairie used as hay or grazing land. A number of species use native prairies as habitat for all or part of their life cycles. Species that need tallgrass prairies include the Endangered western prairie fringed orchid.

Photo: Mike Haddock, K-State

Photo: Keith Johnson, Purdue Forage

Photo: NEBRASKAland Magazine / Nebraska Game and Parks Commission

Data Sources

Information for vegetation and habitat was provided by the 1980 Lancaster County Soil Survey, the 1997 Lancaster County Natural Resources Trend Data and Sustainability Indicator Report and the 1990 Historical and Ecological Resources Survey.

County Level Patterns and Perspectives

Historically, tallgrass prairies covered Lancaster County. Today, cropland and non-native vegetation dominate much of the county's vegetation. Along streams, stands of hardwoods are common with the two main associations being green ash-elm and cottonwood-willow.

Most of the native grasslands are located in the west-central portion of the county, with several high quality remnants in the northwestern section of the County. Some of the larger remnants include Nine-Mile Prairie and Spring Creek Prairie. These prairie remnants are often located in areas with exposed glacial till and rough topsoil, which prevented the area from being cultivated. (See Map 8, Native Grasslands).

Native prairies are a unique part of Lancaster County's natural resources and represent a historical snapshot of our county as it existed prior to European settlement. These native prairies provide recreational and educational opportunities to the citizens of Lancaster County as well as habitat for many wildlife and plant species. These remnants are inhabited by a number of prairie insect species, such as the regal fritillary butterfly.

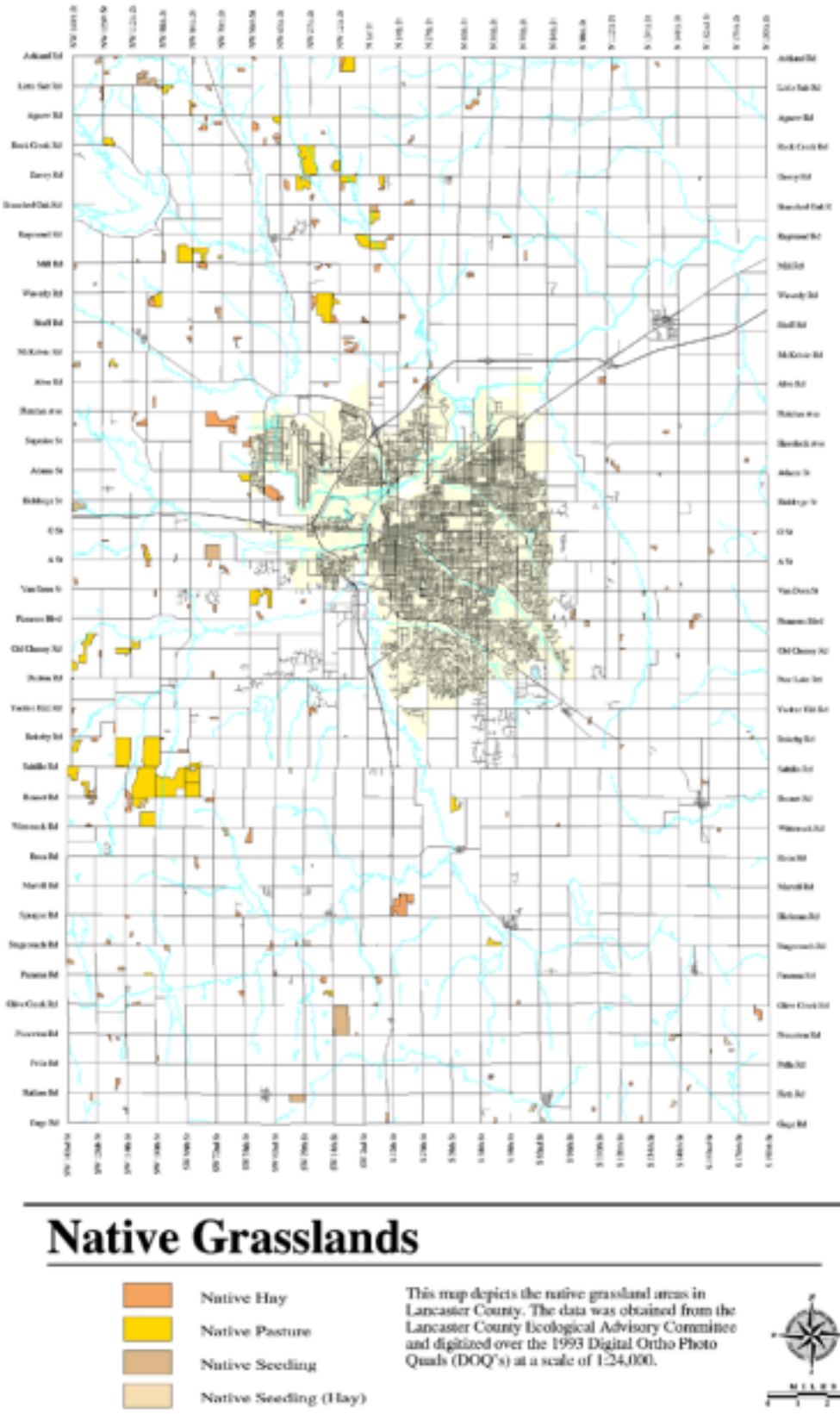

Image by: Lincoln-Lancaster County Planning Department

Map 8

Environmental Imperatives and Planning Implications

Native plant communities provide a variety of ecological benefits, including the protection of water resources; forming and protecting soil; maintaining biodiversity; providing areas for wildlife migration; contributing to the maintenance of regional rainfall patterns; and providing educational and recreational opportunities.

Photo: NEBRASKAland Magazine / Nebraska Game and Parks Commission

Sediment retention within watersheds is important for water quality. One of the most effective ways to trap sediment is through native prairies. Native plant communities are effective tools for reducing non-point source pollution because it allows pollutants to settle out before reaching a groundwater or surface water source.

If the native biological diversity of Lancaster County is to be maintained and enhanced, the environmentally sensitive areas within the County need protection and management. For example, critical habitat such as saline wetlands is essential if the Salt Creek Tiger Beetle is to survive. A number of other rare species such as the Endangered Western Prairie Fringed Orchid must have appropriate native tallgrass prairie habitat to survive.

Many natural vegetative types require periodic fire in order to be maintained. Fire helps to redistribute nutrients to plant species, as well as control woody plant invasion and control the spread of exotic plants. Unfortunately, natural burning causes smoke which can disturb area residents. Smoke buffers have been effective in widths of ¼ to ½ mile. Smoke buffers will help diminish the conflict between the use of prescribed fire and smoke, which is perceived as a nuisance.

Photo: NEBRASKAland Magazine / Nebraska Game and Parks Commission

Other consideration for maintaining the native plants and animals in the County include enlarging the existing natural areas and re-establishing connections between these areas. Conversion of native habitats in Lancaster County to agricultural and urban uses has resulted in a highly fragmented natural landscape, with remnant patches of native vegetation typically being small and isolated from each other. The small size of many of the remnants may be below the threshold for maintaining viable populations of a number of native species. The isolated remnant patches are separated from each other by land uses that are inhospitable to most of the native species, thus there are barriers to species moving between these

patches. Reduced movement can affect the viability of plant and animal populations in several ways. It reduces the exchange of genetic material among populations, thus increasing the likelihood of negative genetic effects in the isolated populations. Reduced movement also decreases the likelihood that a suitable natural area will be re-colonized should the existing populations be lost due to chance events. For these reasons, efforts should be made to enlarge existing natural areas in the County and establish corridors between them.

Additional Research Needs

A countywide biological survey specifying the distribution, type and quality of natural areas in addition to a study of effective buffer zone management will be useful in determining how to maintain vegetation in the County. Moreover, a cumulative impact analysis of watershed modification will help to understand the broad dynamics of how vegetative communities' impact whole watersheds.

Photo: NEBRASKAland Magazine / Nebraska Game and Parks Commission